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Professor Dowden writes a scholarly and instructive paper on Edmond Scherer, the French poet and critic, who died in March.

— We regret to note that failing mental faculties have at last compelled Mr. George Bancroft, the historian, to abandon his literary labors.

— It is almost a year since *Scribner's Magazine* began the publication of its Railway Series; and the publishers now announce that in the June number they will begin a series of popular articles on the practical applications of electricity. Among the writers who have been already secured are Professor Cyrus F. Brackett of

Princeton College, who will write a general introduction to the series; Charles L. Buckingham, chief electrical engineer of the Western Union Telegraph Company; President Henry Morton of Stevens Institute of Technology; A. E. Kennelly, chief electrical expert of Mr. Edison's laboratory; Dr. M. Allen Starr, a medical investigator of high position; Lieut. W. S. Hughes of the United States Navy; and Lieut. John Millis of the United States Army. Among the subjects of the articles will be "The Application of Electricity to Modern Telegraphy, to Lighting, to the Household, to the Human Body, to Warfare on Land and Sea, and to Large Industries." The whole series will be illustrated.

Publications received at Editor's Office,

April 8-13.

- ALDEN's Manifold Cyclopedia of Knowledge and Language. Vol. XII. Dominis to Electric Clock. New York, J. B. Alden. 12^o. 50 cents.
- AMERICAN Workman, The. Vol. I. No. 1. New York, O. M. Dunham. 16 p. 4^o. \$2.50 per year.
- ANDREWS, Thomas, the Scientific Papers of the Late; with a Memoir by P. G. Tait and A. Crum Brown. London and New York, Macmillan. 514 p. 8^o. \$5.
- BENNETT, A. W., and MURRAY, G. A Handbook of Cryptogamic Botany. London and New York, Longmans, Green, & Co. 473 p. 12^o. \$5.
- CHORAL Book, The, for Home, School, and Church. Tr. by Friedrich Zuchtman and Edwin L. Kirtland. Boston. Ginn. 95 p. 8^o. 70 cents.
- DEIGHTON, K. Shakespeare's The Winter's Tale. London and New York, Macmillan. 198 p. 60 cents.
- DUPUIS, N. F. Elementary Synthetic Geometry of the Point, Line, and Circle in the Plane. London and New York, Macmillan. 294 p. 16^o. \$1.10.
- GRAVER and Palette. Vol. I. No. 1. 9. New York, Graver & Palette Publ. Co. 8 p. 19. 50 cents per year.
- HAMILTON, D. J. A Text-Book of Pathology, Systematic and Practical. London and New York, Macmillan. 736 p. 8^o. \$8.25.
- HOME Gymnastics for the Well and the Sick. Ed. by E. Angerstein, M.D., and G. Eckler. Tr. from 8th German ed. Boston and New York, Houghton, Mifflin, & Co. 94 p. 8^o. \$1.50.
- HOMER's Odyssey. Books I-IV. Ed. by B. Perrin. Boston, Ginn. 229 p. 12^o. \$1.50.
- JERRAM, C. S. Grace Reddenda. Oxford, Clarendon Pr. 100 p. 16^o. (New York, Macmillan, 60 cents.)
- LEFFMANN, H., and BEAM, W. Examination of Water for Sanitary and Technical Purposes. Philadelphia, Blakiston. 106 p. \$1.25.
- LONGMANS' New Atlas, Political and Physical. Ed. by Geo. G. Chisholm. London and New York, Longmans, Green, & Co. 4^o. \$4.
- MAC DOWALL, A. B. Curve Pictures of London for the Social Reformer. London, Sampson Low. 49 p. 16^o.
- MACKNIGHT, J. A. Hagar. New York, Chicago, and San Francisco, Belford, Clarke, & Co. 321 p. 16^o.
- OIL and Gas, the Journal of. Vol. I. No. 1. w. Fremont, O., H. E. Woods. 8 p. 10. \$2 per year.
- PROCTOR, R. A. The Student's Atlas. In Twelve Circular Maps. London and New York, Longmans, Green, & Co. 23 p. 8^o. \$1.50.
- RAIN-Fall, Report of, in Washington Territory, Oregon, California, etc., for from Two to Forty Years. Washington, Government. 101 p. 8^o.
- SCOTT's Rokeby: A Poem in Six Cantos. Ed. by Michael Macmillan. London and New York, Macmillan. 280 p. 16^o. 90 cents.
- SMITH, R. H. Graphics; or, The Art of Calculation by drawing Lines, applied especially to Mechanical Engineering. With an Atlas of Diagrams. Part I. London and New York, Longmans, Green, & Co. 8^o. \$5.
- STEELE, J. D. Hygienic Physiology with Special Reference to the Use of Alcoholic Drinks and Narcotics. New York and Chicago, A. S. Barnes & Co. 401 p. 12^o. \$1.

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MODERN VIEWS OF ELECTRICITY. By Oliver J. Lodge, LL.D., D.Sc., F.R.S., Professor of Experimental Physics in University College, Liverpool. Illustrated. *In Press*.

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- Photograph of candle taken by its own light. - by lamp light, 20 seconds exposure. - of an unstained plate. - of same showing values of colors. - of burning building taken by its own light. - of surf higher than house. - of human eye, contracted pupil. " " dilated pupil.	- Photograph taken through pin hole. - of same through a \$50 lens. - of maple tree showing colors. - of a flash of lightning. - of successive attitudes of a man throwing stone. - of frog taken under water. - of human speech. - of surf at Hastings, England.
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TOLSTOY 20 YEARS AGO. Mr. Eugene Schuyler gives in this paper, which will be concluded next month, his personal reminiscences of Tolstoy, with many conversations now first published. Illustrated by many interesting portraits.

SHORT STORIES AND PAPERS include "The Dilemma of Sir Guy the Neuter," by Octave Thanet; the second and concluding part of "Jeanne," by J. E. Curran; "Fiction as a Literary Form," by Hamilton W. Mable; and a new chapter of Robert Louis Stevenson's stirring serial "The Master of Ballantrae."

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source of heat distinct from that derived from carbonaceous combustion. It is known that the result is cumulative, but it has not been known that there was another source, in the heat evolved from the air itself. Incandescence of the non-combustible concretion, or crystallization forming the Welsbach hood or burner, is known to be a prolific source of heat as well as of light. And there are many evidences that incombustible materials of like refractory character may and do yield heat largely when incandescent under an air-blast; the presence of carbon, and the normal consumption of carbon and oxygen, not being essential or even attendant conditions.

"As a result of experiments for some years conducted, leading in this direction, and in the earlier part of this period confined to the use of an air-blast with a very small adjunct of hydro-carbon gas, the most intense metallurgic heat was produced without the use of any solid or liquid fuel, and without the production of gases as the products of combustion, in any form of carbonic acid or carbonic oxide. The very small proportions of carbonaceous gas—hydro-carbon gas—used as the means of setting the air-blast on fire not being sufficient to cause delivery of carbonic acid or oxide from the flue, no flue was used, in fact, as an upward delivery, and none was necessary.

"These trials were but steps, however, leading to a more complete substitution of atmospheric combustion by contact with incandescent surfaces, carbonaceous at first, and of anthracite or bituminous coal, the carbon of which would remain intact after hours of evolution of intense heat. The conditions of such contact are still obscure as to the point of original action or the cause of such action; but it is demonstrated that the utmost intensity of heat, not less than 4,000°, can be and is attained with a mere initiative of carbonaceous combustion, and, when once established, may be maintained for an indefinite period by merely preserving

the incandescence of the surface. And this may be done by a slight manipulation of the surface brought to incandescence, and with some slight renewal of carbonaceous material.

"The direction of these results is so clear that it is assumed to be a new and practicable method of the evolution of heat for economic purposes. The air itself, which is the only body consumed, becomes a new source of heat, acting independently of the supposed limit of oxygenization or of carbonaceous combustion. Nor is any gaseous or aeriferous compound delivered as the product of such evolution of heat or combustion, if so called. We have applied the term 'combustion' heretofore to all combinations resulting in the evolution of heat enough to burn or disorganize organic matter.

"If the air itself, its nitrogen as well as its oxygen, can be made available as a direct source of heat without the attendant conditions of the formation of waste products, such as carbonic acid or carbonic oxide, the discovery is one of the greatest in human experience. It implies the substitution of an inexpensive natural fuel for the expensive natural and artificial now in use. The mere suggestion appears too great to be credible; but it is absolutely true that this is done experimentally with complete success, and that appliances are already in use, heating the air in large buildings, and melting the most refractory metals in considerable quantities. The intensity of the heat is equal to that of the blow-pipe, while the extent of space to which it is applied is adequate to any requirement for steam-generation or for manipulation of iron or other metals.

"It is only intended here to cite so much of what are admitted facts in heat-production by the usual processes as will show that other and superior aids to heat-production are already reached in many cases, and that the line of reasonable progress lies in the direction of relief from dependence on the combustion of carbon, organic or inorganic, as the source of heat for economic purposes."

X.

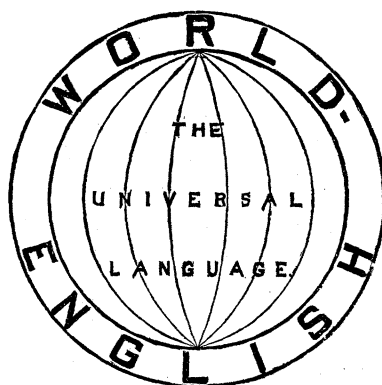
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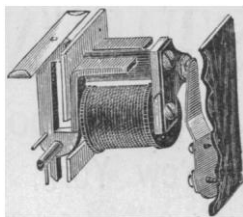
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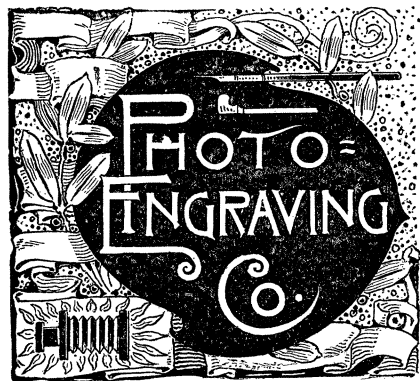
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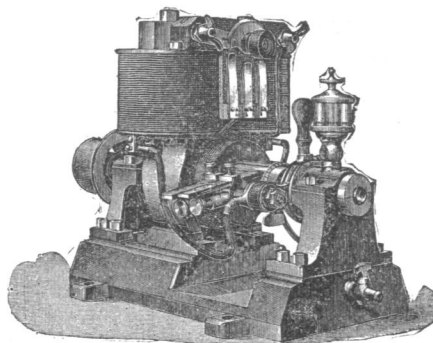
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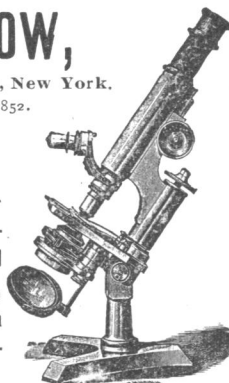
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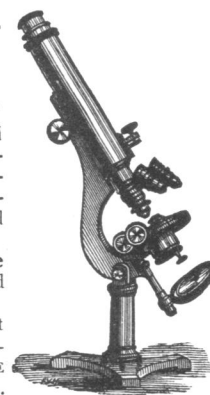
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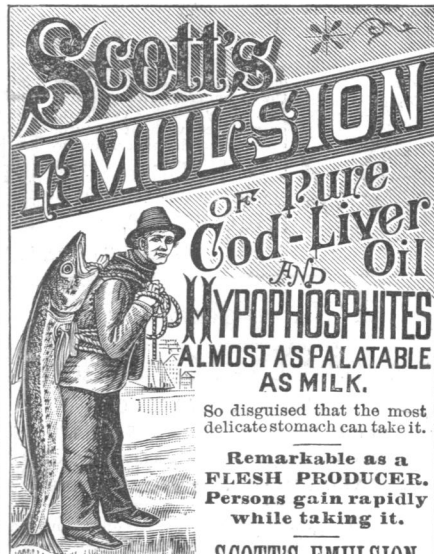
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